

Docket No. HUANG04
US App. No. 10/537,841 «APPLICATION_NO»

IN THE CLAIMS

1. (currently amended) A catalyst for clean non-woody pulping, characterized in that the wt% composition of said catalyst includes comprising:

5 wt% - 9 wt% of sodium salicylate[[:5%-9%]];

2 wt% - 5 wt% of anion silieic acid silicate softener[[:2%-5%]];

3 wt% - 7 wt% of cooking aids[[:3%-7%]];

2.1 wt% - 3.7 wt% of liquid chlorine or gaseous chlorine[[:2.1%-3.7%]]; and
the remaining: balance of water;

wherein said cooking aids includes:

hydroone volatile: 0.01 wt% - 5 wt% of ethanol and/or ether[[:0.01-5%]];

free quinone: 0.25 wt% - 35 wt% of concentrated sulfuric acid and/or carbon
tetrachloride[[:0.25-35%]];

active matter: 0.15 wt% - 30 wt% of basic Na₂SO₃[[:0.15-30%]]; and
the remaining: balance of water.

2. (currently amended) The catalyst for clean non-woody pulping according to claim 1, characterized in that wherein said cooking aids is prepared by forming a the solution which is the mixture of the emulsion thereof with a the concentration of 3% and, then mixing the emulsion with pure water, wherein said emulsion is formed of the raw material of cooking aids.

3. (currently amended) A process for using the catalyst for clean non-woody pulping according to claim 1, characterized in that all kinds of herbs are used as the raw material and comprising the following steps are included:

a) cutting and impurities removing[[:]];
wherein the a raw material is cut into pieces with the length of between 10mm and

15mm, the removal rate of remaining fringe, kernel as well as dust is above 95%;

b) feed preparation and impurities removing[[:]];
wherein the raw material is soaked in the catalyst to prepare for 10-14 hours, the dry

weight of the raw material is 3-8% of the weight of the catalyst weight, the deposition and
impurities removing are proceeded through a deposition channel provided at the bottom of the a

bath for the feed preparation and impurities removing;

c) dividing into fibers by refining[[:]];
3

Docket No. HUANG04
US App. No. 10/537,841 «APPLICATION_NO»

wherein the raw material is divided into fibers through a the refining disc so that it is changed to rough fiber bundle;

d) catalysis copolymerization[[:]];

wherein the a pulp obtained from the above steps enters into a catalysis tower to perform catalysis copolymerization reaction for 10-14 hours at the normal ambient temperature and pressure;

e) refining:

wherein the pulp is grounded into the required a papermaking stock through a refiner;

f) concentration and separation[[:]];

wherein the pulp and the catalyster are separated by a thickener, the papermaking stock with different concentration may be is separated according to the requests requirements, while the residual liquor of the catalyster is recovered;

g) pulp bleaching[[:]];

wherein the bleaching is proceeded by conventional a bleaching equipment to obtain a bleached pulp;

h) pulp washing[[:]]; and

wherein the bleached pulp is washed in the conventional a pulp washing vessel, then the a finished pulp is obtained.

4. (currently amended) The process for using the catalyster for clean non-woody pulping according to claim 3, characterized in that a submerged mesh is arranged on the bath for the feed preparation and impurities removing.

5. (currently amended) The process for using the catalyster for clean non-woody pulping according to claim 3, characterized in that calcium hypochlorite is used for bleaching liquor, and the a supplying port of chlorine gas is added at the a recycle entrance of a fan pump, through which the chlorine gas is added intermittently during the bleaching to increase the available chlorine in the whole bleaching liquor so that the available content of bleaching liquor can remains constant during the whole bleaching process.

6. (currently amended) The process for using the catalyster for clean pulping according to claim 3, characterized in that said raw material herbs include is selected from the group consisting of wheat straw, rice straw, straw stem, corn stalk, cotton straw or reed.

7. (new) A catalyster for clean non-woody pulping comprising:

Docket No. HUANG04
US App. No. 10/537,841«APPLICATION_NO»

5 wt% - 9 wt% of sodium salicylate;
2 wt% - 5 wt% of anion silicate softener;
3 wt% - 7 wt% of cooking aids;
2.1 wt% - 3.7 wt% of chlorine; and
balance of water;
wherein said cooking aids includes:
0.01 wt% - 5 wt% of ethanol and/or ether;
0.25 wt% - 35 wt% carbon tetrachloride;
0.15 wt% - 30 wt% of basic Na₂SO₃; and
balance of water.